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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,455	01/21/2004	Derek J. Dennis	2004_0026	1388

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EXAMINER

FLETCHER III, WILLIAM P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,455

Applicant(s)

DENNIS ET AL.

Examiner

William P. Fletcher III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 10-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Receipt is acknowledged of applicant's amendment and response filed 11/12/2004. To clarify the record at this point in the prosecution, claims 10-20 are pending.

Response to Arguments

2. Applicant's arguments filed in the above-mentioned response, with respect to the objection and rejection under 35 U.S.C. § 112, 2nd Paragraph, set-forth in the Office action mailed 6/22/2004 have been fully considered and are persuasive. Applicant's amendment has overcome these issues and the objection and rejection have been withdrawn.

3. Applicant's arguments filed in the above-mentioned response, with respect to the rejection(s) of claim(s) 1-9 under 35 U.S.C. § 103(a), are moot in view of the cancellation of these claims.

4. Applicant's preemptory arguments regarding these new claim have been fully considered but are not persuasive.

Applicant's arguments that "there is no disclosure or suggestion in Moens that such [a] composition would be particularly suitable for use in the process of Hyde" and that "nothing is disclosed or suggested regarding [the] beneficial use [of Moen's composition(s)] in a thermographic process" are noted. Applicant is reminded that the strongest rationale for combining references is a recognition that some advantage or expected beneficial result would have been produced by their combination. *In re Sernaker*, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983). Not only can the composition(s) of Moens be advantageously applied at lower temperatures (e.g., less than 150°C), but the compositions advantageously yield good flow

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properties, hardness, and solvent resistance. Consequently, there is clearly advantage in combining the references. Further, a prior art combination requires only a *reasonable* expectation of success. MPEP § 2143.02. Because Hyde and Moens both teach applying, melting, and curing radiation-curable, acrylated polymer powder compositions on paper substrates, it is the examiner's position that there is a reasonable expectation of successfully substituting one such composition for another. Consequently, this argument is not persuasive.

New claims 10-20 are rejected below as being obvious over the rejections of record for substantially the same reasons. Biller is not relied upon as before, so applicant's argument with respect to this reference is moot.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

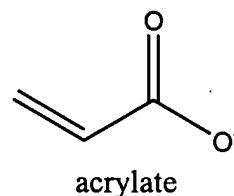
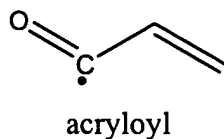
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 10-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

New claim 10 recites "employing, as a plasticizer, a radiation-sensitive, semi-crystalline polyester containing (meth)acryloyl groups." The originally-filed disclosure does not support this limitation. Page 6 of the specification recites: "The plasticizer is preferably a semi-

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crystalline (meth)acrylated polyester.” Acryloyl radical groups are different from acrylate functional groups:



Consequently, a disclosure of “acrylate” does not support a recitation of “acryloyl.”

Claims 11-20 are rejected under this heading by virtue of their dependency from independent claim 10.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. **Claims 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyde (US 5,565,246 A) in view of Moens et al. (WO 01/59021 A1).**

With respect to claim 10, Hyde teaches a process for forming a heat-resistant raised print comprising the following steps, in the order named:

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- (a) applying a wet inked print to a substrate;
- (b) applying a radiation-curable acrylated polymer powder composition to the wet inked print on the substrate, whereby the powder composition adheres to the wet inked print;
- (c) heating the powder to melt temperature, whereby the powder composition flows and fuses with the wet inked print to form a raised, radiation-curable melt; and
- (d) irradiating the raised, radiation-curable melt whereby the raised, radiation-curable melt polymerizes and forms a heat-resistant raised radiation-curable melt on the substrate (abstract, 2:37-50; 4:15-16; 8:16-26; and 12:34-48).

While Hyde does teach a plasticizer (5:42), this reference does not explicitly state that the plasticizer is a radiation-sensitive, semi-crystalline polyester containing (meth)acryloyl groups.

Moens teaches a radiation-curable, acrylated polymer powder composition. The composition contains a semi-crystalline polyester containing (meth)acryloyl groups (3:5-15, for example). Moens' powder composition melt at low temperatures (below 150°C) and possess good flow, film hardness, and solvent resistance (1:1-10 and 9:20-25). Although it is not referred to explicitly as a "plasticizer," because it is a component of the coating composition having a reduced melting point over other such compositions in the art, it functions as a plasticizer according to Biller, as made of record in the prior Office action.

It would have been obvious to one of ordinary skill in the art to modify the process of Hyde so as to utilize, as the radiation-curable, acrylated polymer powder composition, the composition of Moens. One of ordinary skill would have been motivated to do so by the advantageous lower melting temperature and good flow, film hardness, and solvent resistance disclosed by Moens. Because Hyde and Moens both teach applying, melting, and curing

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radiation-curable, acrylated polymer powder compositions on paper substrates, it is the examiner's position that there is a reasonable expectation of successfully substituting one such composition for another.

With respect to claims 11 and 12, Moens further teaches that the coating composition may contain up to 30 wt.-% (meth)acrylated epoxy oligomers (3:13-14 and 7:25-end) and 10-90 wt.-% (meth)acrylated polyester oligomers (3:9-10).

With respect to claim 13, Moens discloses the relative wt.-% detailed above, but does not explicitly state that the 50/50 ratio claimed. It is the examiner's position that the relative amounts are result-effective, effecting the melting point and coating characteristics of the power composition. Consequently, absent clear and convincing evidence demonstrating the criticality of the claimed amounts, it would have been obvious to one of ordinary skill in the art to optimize such result-effective variables by routine experimentation (MPEP § 2144.05).

With respect to claim 14, Moens further teaches that the composition may contain photo-initiators (9:bottom).

With respect to claim 15, Moens teaches that the semi-crystalline polyester containing (meth)acryloyl groups is present up to 30 wt.-%.

With respect to 16, Moens teaches that the semi-crystalline polyester containing (meth)acryloyl groups is UV-curable (9:bottom).

With respect to claims 17 and 18, both Hyde and Moens teach paper substrates (Hyde, 3:1-5 and Examples; Moens, 12:1-7). Hyde explicitly teaches letterhead stationary (3:3-5).

With respect to claims 19 and 20, Moens teaches melting at between 80°C and 150°C (9:20-25).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,380,279 B1 and US 6,384,102 B1 (both to Moens et al.) are cited as having the same or similar disclosures as WO 01/59021 A1.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WPF 2/1/2005

William P. Fletcher III
Examiner
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